WE CLAIM:

1. A fuel injection valve for an injection system for an internal combustion engine, said valve comprising:

a valve body having a valve body seat, and

a valve needle having a valve needle seat guided over a guide length (L) in the valve body within a stationary circular guiding surface for controlling a spray orifice , wherein the valve body includes a reservoir in the shape of an annular groove, said reservoir arranged coaxially to the guiding surface.

2. A valve in accordance with Claim 1, wherein the reservoir is separated from the guiding surface of the valve body by a cylinder-shaped wall section.

3. A valve in accordance with Claim 1, wherein the reservoir has a depth (T) of at least one fifth of the guide length (L).

4. A valve in accordance with Claim 1, further comprising a hydraulic connection between a fuel inlet of a pressure chamber in the valve body and the reservoir.

5. A valve in accordance with Claim 1, wherein the reservoir has a thickness (D_N) of at least one fifth of the diameter of the guiding surface.

6. A valve in accordance with Claim 2, wherein the wall section has a thickness (D_W), the reservoir has a thickness (D_N), and (D_W) and (D_N) are approximately equal.

7. A valve in accordance with Claim 2, wherein the wall section is hollow.

8. A valve in accordance with Claim 1, wherein the fuel injection system is a high-pressure accumulator injection system.

9. A valve in accordance with Claim 1, wherein the reservoir is a high pressure reservoir.

10. A valve in accordance with Claim 4, wherein the connection is adapted to maintain pressure in the reservoir.

11. A valve in accordance with Claim 1, wherein the reservoir has a depth (T) of up to about half the guide length (L).

12. A valve in accordance with Claim 7, wherein the wall section elastically deforms under pressure.

13. A valve in accordance with Claim 1, wherein the diameter of the valve needle guide is about 3 mm to about 4 mm.

14. A valve in accordance with Claim 6, wherein the thickness (D_W) is approximately 1 mm.

15. A valve in accordance with Claim 6, wherein the thickness of the reservoir is approximately 1 mm.

16. A valve in accordance with Claim 1, wherein the reservoir has a depth (T) of about 5 mm.